Regional Inventory
&
Materials Management

Overview and Data Profile

August 4, 2004
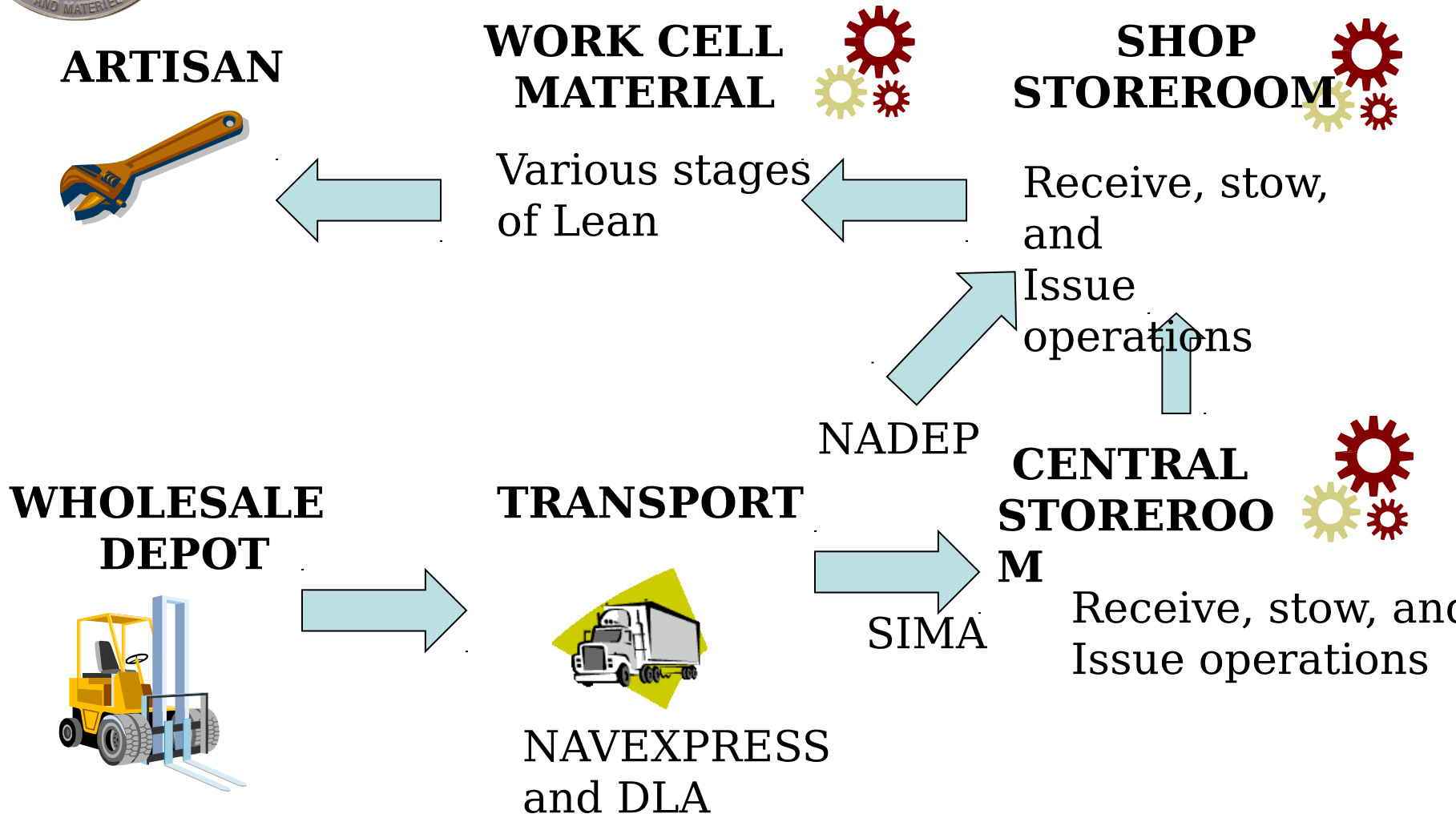
The RIMM project was commissioned to streamline and regionalize material handling

- Objective
  - improve weapons systems mission capabilities at lower cost

- Specific goals
  - Minimize touches
  - Streamline the process
  - Minimize inventory layers

- Pilot region
  - San Diego

- Maintenance commands; I and D level
  - SIMA   Ship's Intermediate Maintenance Activity
  - NADEP   Naval Aviation Depot North Island
  - MALS   Marine Aviation Logistics Support

Current flow includes multiple stock locations within the region

ARTISAN

WORK CELL MATERIAL

SHOP STOREROOM

Various stages of Lean

Receive, stow, and Issue operations

NADEP

WHOLESALE DEPOT

TRANSPORT

CENTRAL STOREROOM

SIMA

Receive, stow, and Issue operations

NAVEXPRESS and DLA

Activities are duplicated as material moves through multiple locations

Activities

Distribution Process	Two stock locations	Single stocking point	Flow through
Total Activities	**66**	**39**	**15**
Flow Through	Not applicable	Not applicable	3
Receipt to Put-Away	36 18 at DDDC 18 at storeroom	18	NA
Requisition to Selection	18 9 at DDDC 9 at storeroom	9	NA
Ship	8	8	8
Deliver	4	4	4 4

Material is sourced from multiple locations

ITEM POSITIONING
% / #

COMMAND	ITEMS REQUIRED	REGIONAL DLA (DDDC)	OTHER DDC'S	NON-DLA
SIMA	5277	**27%** 1425	62% 3258	11% 594
NADEP NI	22175	**30%** 6653	39% 8620	31% 6902
MALS	24969	**23%** 5667	71% 17635	7% 1667

Some material is duplicated

Item duplication

Activity	SIMA	NADEP NI	MALS
Items Carried	5277	22175	24969
Duplications	1342 25%	4152 19%	5667 23%

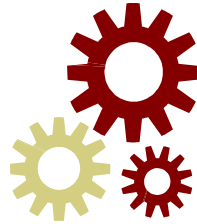# Minimum physical touches can be achieved by synchronizing flow to point of use

ARTISAN
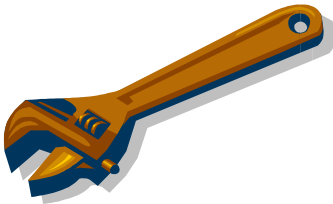
Material as needed for:
   repetitive tasks
   scheduled work

Lean design
   Bins
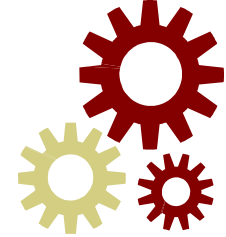   **Designated areas**

MATERIAL AT WORK CELL

Replenished by
Pull signal or
to schedule

Lean levels

NIF or inventory accounts

REGIONAL HUB

Single receive, stow, and issue within a region

Synchronized flow if stocked out of Region

Wholesale or retail Inventory accounts

Synchronized flow respects objectives for availability and responsiveness

- Flow directly to point of use does not preclude material buffers at the work cell

- Buffers should be appropriate to usage and variability, not JIT

- Optimal location of a single inventory may be point of use

A regional hub enables material flow, managed
by a logistics integrator who would:

- Establish the correct material buffers at the work cell based on work cell focus, schedule variability, lead times, etc.
- Determine material needs based on work schedule and pull signals
- Synchronize material receipt to work cell needs
  - Scheduled work and lead time
  - Pull signal, PEB on regular schedule
  - Routine "order today, deliver tomorrow" capability
  - Expedited delivery service capability
- Minimize physical touches in receipt from suppliers, delivery to point of use and integrity of financial transfers
- Monitor customer specific KPI (CWT, effectiveness, etc.) to identify issues and ensure confidence

The logistics integrator's focus is on work cell pro
Several candidates could provide these capab

A regional hub creates benefits:

- Ensures a single inventory site for items in the region
  - touches for duplicate items eliminated
  - Reductions in levels likely as bullwhip effect eliminated
- Enables flow directly to point of use from outside the region
  - touches eliminated
  - Storeroom space reduced, available to production
  - Actual demand more visible
- Creates a streamlined replenishment process
  - Labor at multiple sites leveraged, inefficiencies reduced
  - Improvements in synchronization reduce costs, as all space and labor at a single location, not a some at many locations
  - Encourages a demand driven perspective

Replenishment process design can optimize labor currently expended at multiple locations

- Stow and issue activities at storerooms eliminated

- Activities at multiple central receiving locations leveraged
  - DDDC
  - NADEP central receiving
  - FISC receiving at Bldg 116 to serve SIMA
  - FISC receiving at Miramar to serve MALS

- Delivery process activities combined
  - DDDC
  - NAVEXPRESS

Alternatives for replenishment of work cells will be driven by skills and resources

- Activities are minimized if the work cell logistics integrator picks up material, enters receipts, and replenishes the work cell, avoiding repeated verifications by different individuals

    - Use of the Material Processing Center (MPC) concept is consistent with an element of current replenishment for large commands

- Delivery to the logistics integrator keeps this skilled individual at the cells

- Financial entries could be done by the work cell integrator or at a central site based on labor availability and cost

Initially, the hub would likely have some storage capability

- Total space would be less than today as:
  - Some material would have moved to the work cells
  - Aggregating multiple storage locations would overcome probable sub-optimization
- Space, put away, and selection costs would be a visible cost of lack of synchronization providing an incentive to improve
  - Schedule accuracy
  - Supply and demand planning

Storage costs become a variable cost the integrator can reduce

A regional hub can improve performance

- Activities are streamlined

- Availability to end users improves as demand from multiple separate locations is aggregated to one location

- Availability to end users improves as artisans, planners, and inventory managers strengthen demand planning, recognizing multiple inventory buffers no longer exist

- Inventory invested in safety stock at multiple sites is reduced, freeing dollars for higher priorities

- Distribution processes become synchronized to provide support to end users through operations excellence rather than inventory